Validity and Practicality of Articulate Storyline Learning Media on Environmental Pollution Materials for Junior High School Students

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Abstract: Research has been carried out on the development of articulate storyline on environmental pollution material. This study aims to test the validity and practicality of the articulate storyline on environmental pollution material. The development model used in this research is the ADDIE development model up to the implementation stage. The instruments used in this study were validation sheets and student response questionnaires. The results of this study obtained high validity criteria with a value of 0.90. The results of the practicality of this study get very practical results with an average value of 95.5%. The product resulting from this research can be continued to the effectiveness stage.

Keywords: Articulate storyline; Validity; Practical.

Introduction

The Covid-19 pandemic has had an impact on student learning activities in schools. The impact is that students have to do online learning, so teachers must still be able to optimize learning using technology. Teachers can use learning media by utilizing existing technology. The use of technology in learning activities can provide convenience for teachers in delivering learning materials through various platforms as existing learning media (Salsabila et al., 2020).

The selection of learning media must also be considered so that the function of learning media as a support in the teaching and learning process can run effectively and can attract the attention of students to be more motivated in learning (Tafonao, 2018; Wati and Widiansyah, 2020). One of the learning media that can be used in the learning process is interactive multimedia. Visualization of a learning material can be poured through learning media, namely interactive multimedia (Heliawati et al., 2022).

The fact is that in learning, especially at SMPN 24 Banjarmasin, according to experience during PPL in the learning process, teachers still use power point media and google form has not used interactive multimedia. While students are very happy when the learning process is presented in an interesting way. In particular, environmental pollution material in the student learning process cannot be simply given an explanation of the material, but students need concrete knowledge. Environmental pollution material is contextual material that is very close to students' daily lives, therefore students need to relate it directly to their lives, not only theoretically (Saenab et al., 2018). However, according to concrete facts in the environmental pollution material, it cannot be observed directly in a lesson given the limited time and facilities in learning. Because of this in environmental pollution material, interactive

multimedia is needed to help visualize students in learning. This interactive multimedia can be made using the Articulate Stoyline application.

Articulate storyline is a software that has a look like power point but has superior features. In the articulate storyline there are interesting characters, there are quiz features, buttons, url links and trigger links. Link trigger function is to direct the section or page where we want to go (Sari and Harjono, 2021). Articulate storyline also has audio, video, image and animation features and is easy to use. It can be used online or offline and can be used on a handphone or laptop so that it can be used anywhere and anytime. The features contained in the articulate storyline are very interesting so that they can help in the learning process, and the ease with which the articulate storyline has problems with time and space limitations that occur can be resolved.

There are many researchers who have developed interactive multimedia using articulate storylines, but no one has discussed especially environmental pollution material, such as one of the studies conducted by Syabri and Elfizon (2020) which obtained research results with very valid categories and an average student response of 84% with categories very practical. Based on this, the researcher intends to test the validity and practicality of the articulate storyline on environmental pollution material which is equipped with practical videos so that students can find out concrete facts so that students can relate learning to their daily lives. It is expected that students can more easily observe what cannot be observed directly with the senses, students are also expected to be more motivated and make students actively involved in interacting with the learning media they use. Actively interacting here, students will be able to click the buttons on the media, students can choose the menu they want contained in interactive multimedia using the articulate storyline software.

Method

The research method used in this study is a research and development method. The development model used is the ADDIE development model. ADDIE development model with five stages, namely analysis, design, development, implementation, evaluation (Chaeruman, 2008).
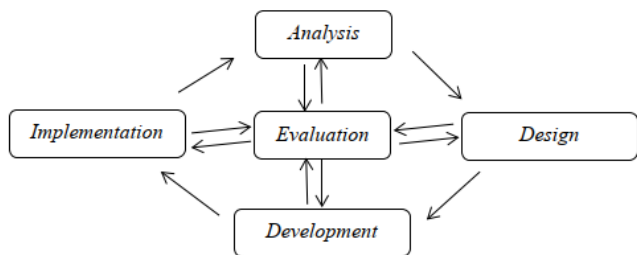

Figure 1. ADDIE depelopment model research flow

Research is limited only to the implementation stage, as was done by Istyadji et al. (2022) who also modified the ADDIE model by only running until the implementation aspect, and Fahmi et al. (2022) who modified the Four-D model because the research implementation was constrained by the conditions of the Covid-19 pandemic. The research was conducted at SMP Negeri 24 Banjarmasin. The students involved in the limited trial phase were 8 students of SMP Negeri 24 Banjarmasin.

The interactive multimedia articulate storyline validity data was obtained from the media validity sheet instrument. With assessment items using a Likert scale with a score of 5. Data analysis was carried out using the Aiken'V analysis formula (Aiken, 1985). The practicality of interactive multimedia articulate storyline data was obtained from the student response questionnaire instrument. The scoring of the questionnaire uses a likert scale of 1-5.

Result and Discussion

Researchers developed an articulate storyline for junior high school students on environmental pollution. The interactive multimedia articulate storyline that has been created by this researcher has advantages. In use, it can be accessed online or offline. Articulate storyline has more complete features compared to power point so it is more interesting.

Figure 2. The initial appearance of the media articulate storyline

Research has proven that articulate storyline has interesting features that make it easier for students to learn Artika and Ningtias (2021). The environmental pollution material made by the researcher is presented attractively, there are many explanatory pictures on each page, then it is equipped with a case so that students can analyze the problems that exist in the material, and there is a practicum video. The practical video is useful for the efficiency of practicum implementation time and can motivate students in the learning process (Mu'minah, 2021).

Figure 3. Image display on One Page in Learning Media

The validity of the articulate Storyline is obtained from the media quality assessment of the validators. Articulate storyline validated by experts. There are six aspects of the assessment with a total of 34 assessment items. The data from the validation results by 4 validators on the articulate storyline can be seen in Table 1.

Table 1. Data from validation results

Assessed Aspect	Average	Validity Criteria
Design		
Height cover display design	5.00	High
Lay out	5.00	High
Homepage design	4.75	High
Structure and arrangement	4.75	High
Key navigation	4.75	High
Contrast and color	4.50	High
Font type and size	5.00	High
Image layout	5.00	High
Visual		
Image resolution	4.75	High
Image suitability	5.00	High
Video resolution	5.00	High
Video operation	4.75	High
Animation	4.50	High

Assessed Aspect	Average	Validity Criteria
Interactivity		
Navigation operation	4.75	High
Interactive multimedia feedback	4.25	High
Ease to play videos	4.75	High
Ease of operating interactive multimedia	4.50	High
Audio		
Audio volume	4.25	High
Audio intonation	4.25	High
Audio compatibility with text	4.00	High
Content		
Compatibility with KI and KD	5.00	High
Conformity of Indicators and objectives with topic	4.50	High
Conformity of indicators and objectives with KD	4.50	High
Concepts and facts	5.00	High
Material description and examples	4.75	High
Interesting material description	4.50	High
Students' understanding of the materia	4.50	High
Student learning motivation	4.25	High
Material source	4.25	High
Question quality	4.25	High
Language		
Language usage	4.75	High
Usage of the term	4.75	High
Conformity with KBBI	4.75	High
Use of punctuation	4.75	High

The practicality of the media is related to the pleasure and convenience of students in using the media, the results of which are obtained from student response questionnaires to the media. The results of student responses to the media can be seen from Table 2.

Table 2. Data on student responses to media

Statment	1	2	3	4	5	6	7	8	Attainment (%)
The material is presented in an interesting way	5	4	5	5	5	5	5	5	97.5
With interactive multimedia, I am more motivated in learning	5	4	5	5	5	4	4	5	92.5
Environmental pollution material in the media is related/close to everyday life	5	4	5	5	4	5	5	5	95.0
The material presented in the media is easy to understand	5	4	5	5	5	5	5	5	97.5
Learning media is very helpful in understanding learning	5	3	5	5	5	5	5	5	95.0
The description of the material and examples presented can help understand the material on environmental pollution	5	4	5	5	5	5	5	5	97.5
The language used in the media is easy to understand	5	4	5	5	4	5	5	5	95.0
Pictures and videos make it easy to understand learning	5	4	5	5	5	5	5	5	97.5
Presentation of material helps to answer evaluation questions	4	4	5	5	5	4	5	5	92.5
Environmental pollution material interactive media is easy to use	5	4	5	5	5	5	4	5	95.0
Average									95.5

Based on the results of the study which can be seen in Table 1. In the design aspect, there are eight assessment points related to the appearance of the opening page, layout, homepage design, arrangement structure, button navigation, colors, letters, and image layout. be the first focus of students before studying the

material in the media. The colors used in this articulate storyline display were chosen based on the color palette to make it pleasing to the eye. This is in line with Tumewan et al. (2021) choosing the right color can create a mood and make the text on the media more attractive. In the design aspect there are suggestions from the validator, namely loading evaluation questions into learning material so that the layout in the articulate storyline looks more systematic. In line with Suyahman (2021) that the layout in the media should be kept simple so that students' attention is more focused on the learning material.

The second aspect is in terms of the visual articulate storyline that has been made to have a very good visual appearance. Attractive visuals can increase students' enthusiasm in learning (McCrudden and Rapp, 2017). Each material explanation is given pictures that match the material being discussed. Making an object that is being discussed clearer so as to prevent misunderstandings of the learning material (Wulandari and Septyani, 2020). In addition, practicum videos in the media can help students overcome the limitations of time and space in learning. Practicum can help students understand students' conceptual understanding of learning materials and overcome limited facilities (Arifin et al., 2020).

The third aspect is the aspect of interactivity. In terms of interactivity, the media already has convenience for its users. This is in line with the research of Indriani et al. (2021) that articulate storylines are easy to use and can be used anytime and anywhere.

The fourth aspect is the audio aspect, this aspect is the aspect that has the lowest value because in the media there is a lack of compatibility between audio and text in the media. This is due to problems when recording audio. The fifth aspect is the content of the results of the articulate storyline assessment that has been made very in accordance with core competency, basic competencies, learning indicators, learning objectives, accuracy of concepts and facts, material descriptions and examples provided, and evaluation questions. However, there are several revisions from the validator, namely adding learning objectives from the learning indicator 4.3.1 and improving learning objectives according to the ABCD reference.

The last aspect, namely the linguistic aspect, contains four related assessment points, the use of language, terms and punctuation. The average validation result on the content aspect gets a value of 0.94 with a high validity statement. From these results, it means that in terms of language the articulate storyline that has been made is very good. In the linguistic aspect, suggestions and input from the validator such as correcting words that still have errors in typing. Based on the average value of the overall articulate storyline, it is categorized as high validity. So from the whole

articulate storyline it is feasible to use but with information by making small-scale revisions before proceeding to the practical stage

Based on the results of the study which can be seen in Table 2. Based on the student response test to the media, the average result was 95.5%. These results indicate that the articulate storyline media received a very positive response from students and it can be concluded that it is very practical to use for junior high school students. This is in accordance with the comments from students. Articulate storyline developed has a very good quality to help students in learning. This is supported by student statements that: "*I am very interested in the material presented because of the good design and easy-to-understand explanations*". In line with Sari and Harjono (2021); Sindu et al. (2020) by using articulate storyline students are more interested in learning so that it can increase student interest in learning.

Articulate storyline also raises students learning motivation, it is also supported by students' opinions that; "*i am motivated to learn when using the media because the content of the material is easy to understand*" and the students stated that; "*the media also motivates me to learn because all the material presented what is in the media is very easy to understand so that it adds to my understanding in the teaching and learning process, and this media also does not give a sense of boredom*". In general, the use of storylines that articulate makes students feel happy because learning is packaged using technology but still cannot be separated from learning objectives so that students feel motivated (Pratama, 2018; Indriani et al., 2021).

Figure 4. Practicum video in articulate storyline media

In addition to motivating students, the ease of using articulate storylines can make students focus on learning so that it is easy to deliver learning materials (Nugroho and Arrosyad, 2020; Sadikin and Hardianti, 2022). In addition, in understanding learning, the use of videos and images contained in the media helps students understand learning material, so that in learning students do not only imagine from a text but are equipped with videos and images that help visualize students. This is supported by the opinion of students who stated that; "*can better understand the material*

presented with pictures, through the media, also the articulate storyline media can support the time or the learning process". In line with Sari and Harjono (2021); Heliawati et al. (2022) the features contained in the articulate storyline such as pictures and videos can attract students' attention so that students can optimally receive learning materials. The language used in the articulate storyline is easy for students to understand, because it uses simple and communicative language.

The articulate storyline features of student responses are also easy to use because there are already instructions for using the navigation buttons that make it easier for students to operate. In line with students' opinions that; "*it is also very easy to use, so I often open it again to learn*". According to Rianto, (2021) having an articulate storyline as well as a simple display like power point is familiar in the learning process so far.

Conclusion

The interactive multimedia articulate storyline got high validity criteria results from the validators. Based on these results, it proves that the articulate storyline developed is valid and suitable for use for junior high school students. And getting the results of responses from students is categorized as very practical, so that interactive multimedia articulate storylines can be continued to the effectiveness stage.

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